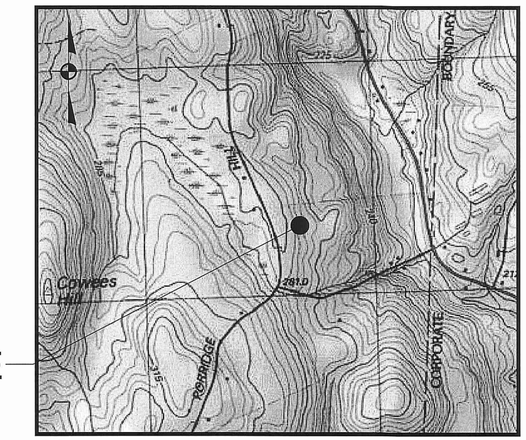
Definitive Cluster Development Plan

May 28, 2021

Porter Page Road

Map 29 Parcel 3
Westminster, Massachusetts 01473



PROJECT SITE

SCALE: 1"=1000'±

Applicant:
Lance Dellogono, Trustee
JP Dell LLC
340 Main Street
Fitchburg, MA 01420
(978) 751-1270

Record Owner:
Lance Dellogono, Trustee
JP Dell LLC
340 Main Street
Fitchburg, MA 01420
(978) 751-1270

Civil Engineer:
McCarty Engineering, Inc.
42 Jungle Road
Leominster, MA 01453
(978) 534-1318

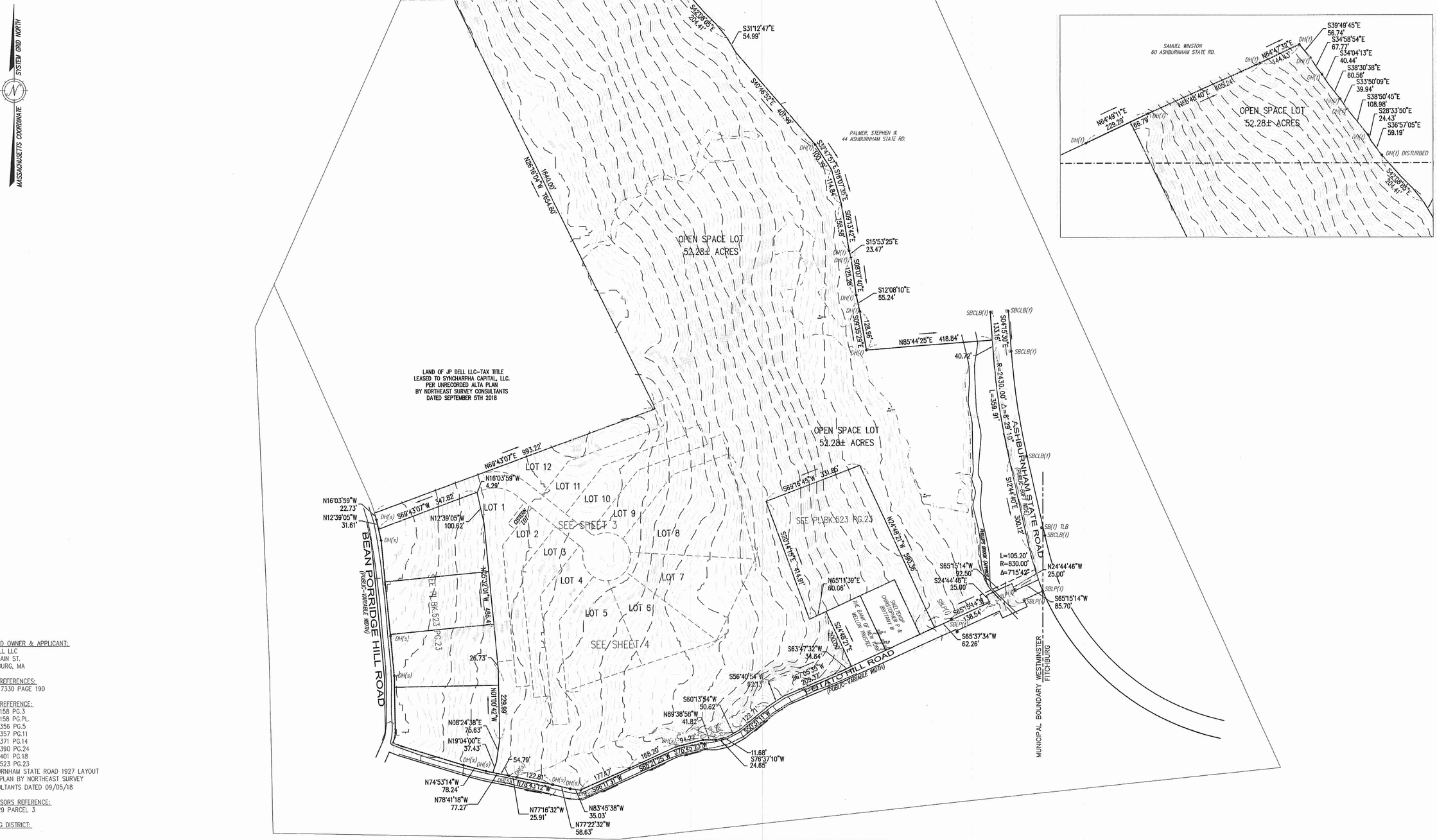
Wetland Consultant:
Three Oaks Environmental
P.O. Box 404
Hubbardston, MA 01452
(978) 855-3180

Surveyor(s):
Dillis & Roy Civil Design Group Inc.
1 Main Street, Suite 1
Lunenburg, MA 01462
(978) 779-6091

COMMONWEALTH OF MASSACHUSETTS
BRIAN R. MARCHETTI
CIVIL
NO. 46279
REGISTERED PROFESSIONAL ENGINEER

5/28/2021

F:\CAD\ME\2005-Dellogono\2005.02 Potato Hill Rd\Plot\2005.02P-COV01.dwg \5/27/2021 12:05 PM \ by: Justin Leclair



RECORD OWNER & APPLICANT:
JP DELL LLC
340 MAIN ST.
FITCHBURG, MA

DEED REFERENCES:
BOOK 7330 PAGE 190

PLAN REFERENCE:
PL.BK.158 PG.3
PL.BK.158 PG.PL.
PL.BK.356 PG.5
PL.BK.357 PG.11
PL.BK.371 PG.14
PL.BK.390 PG.24
PL.BK.401 PG.18
PL.BK.523 PG.23
ASHBURNHAM STATE ROAD 1927 LAYOUT
ALTA PLAN BY NORTHEAST SURVEY
CONSULTANTS DATED 09/05/18

ASSESSORS REFERENCE:
MAP 29 PARCEL 3

ZONING DISTRICT:
R2

RESERVED FOR REGISTRY USE

APPROVAL REQUIRED UNDER
THE SUBDIVISION CONTROL LAW
WESTMINSTER PLANNING BOARD

BEING A MAJORITY
DATE APPROVED: _____
DATE ENDORSED: _____

REFER TO SPECIAL PERMIT DATED
FOR OPEN SPACE PRESERVATION DEVELOPMENT

APPROVED SUBJECT TO CONDITIONS SET FORTH IN A COVENANT EXECUTED
BY _____DATED _____ AND TO BE RECORDED HEREWITH

NO BUILDING OR STRUCTURE SHALL BE BUILT OR PLACED
ON ANY LOT WITHOUT A PERMIT FROM THE BOARD OF HEALTH

I ELLEN M. SHEEHAN CLERK OF THE TOWN OF WESTMINSTER HEREBY CERTIFY THAT THE
NOTICE OF THE APPROVAL OF THIS PLAN BY THE PLANNING BOARD HAS BEEN RECEIVED AND
RECORDED BY THIS OFFICE AND NO APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS
NEXT AFTER RECEIPT AND RECORDING OF NOTICE.

WESTMINSTER TOWN CLERK DATE

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES
AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE
COMMONWEALTH OF MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
STANLEY R. DILLIS
No. 33182
PROFESSIONAL LAND SURVEYOR

5/27/21
PROFESSIONAL LAND SURVEYOR DATE

DILLIS & ROY
CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisandroy.com

PLAN REVISIONS

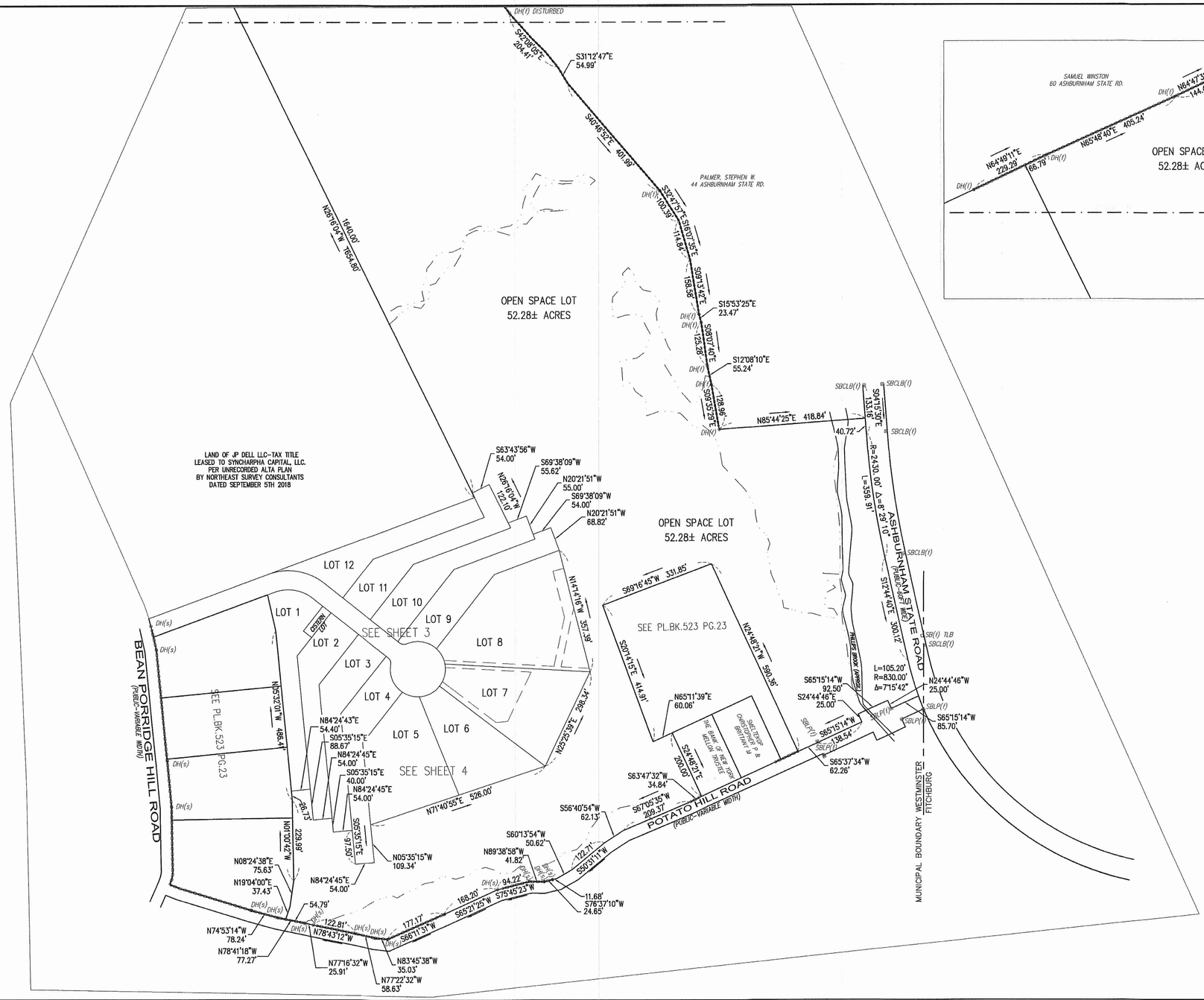
NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
WESTMINSTER, MASSACHUSETTS
EXISITNG CONDITIONS PLAN
POTATO HILL ROAD

200 0 100 200 400 800
1 in. = 150 ft.

DESIGN BY:	DRAWN BY:	CHECKED BY:	SHEET NO.
SBD	REP	GSR	1
DATE: 05/13/21	JOB NUMBER: 6227	DRAWING NO. 6227-SUBDIVISION	

MASSACHUSETTS COORDINATE SYSTEM GRID NORTH



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340 MAIN ST.
FITCHBURG, MA

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ASHBURNHAM STATE ROAD 1927 LAYOUT
ALTA PLAN BY NORTHEAST SURVEY
CONSULTANTS DATED 09/05/18

ASSESSORS REFERENCE:
MAP 29 PARCEL 3

ZONING DISTRICT:
R2

RESERVED FOR REGISTRY USE

APPROVAL REQUIRED UNDER
THE SUBDIVISION CONTROL LAW
WESTMINSTER PLANNING BOARD

BEING A MAJORITY
DATE APPROVED: _____
DATE ENDORSED: _____

REFER TO SPECIAL PERMIT #2018-70 DATED 00/00/0000
FOR OPEN SPACE PRESERVATION DEVELOPMENT

APPROVED SUBJECT TO CONDITIONS SET FORTH IN A COVENANT EXECUTED
BY _____DATED _____ AND TO BE RECORDED HEREWITH

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COMMONWEALTH OF MASSACHUSETTS
STANLEY R. DILLIS
No. 33182
PROFESSIONAL LAND SURVEYOR

5/27/21
PROFESSIONAL LAND SURVEYOR DATE

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1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisandroy.com

PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
WESTMINSTER, MASSACHUSETTS
LOT LAYOUT PLAN
BEAN PORRIDGE HILL ROAD

200 0 100 200 400 800
1 in. = 150 ft.

DESIGN BY:	DRAWN BY:	CHECKED BY:	SHEET NO.
SBD	REP	GSR	2
DATE: 05/13/21	JOB NUMBER: 6227	DRAWING NO. 6227-SUBDIVISION	

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340 MAIN ST.
FITCHBURG, MA

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ASHBURNHAM STATE ROAD 1927 LAYOUT
ALTA PLAN BY NORTHEAST SURVEY CONSULTANTS DATED 09/05/18

ASSESSORS REFERENCE:
MAP 29 PARCEL 3

ZONING DISTRICT:
R2

LAND OF JP DELL LLC–TAX TITLE
LEASED TO SYNCHARPHA CAPITAL, LLC.
PER UNRECORDED ALTA PLAN
BY NORTHEAST SURVEY CONSULTANTS
DATED SEPTEMBER 5TH, 2018

OPEN SPACE LOT

MASSACHUSETTS COORDINATE SYSTEM GRID NORTH

PORTER PAGE ROAD

BEAN PORRIDGE HILL ROAD (PUBLIC–VARIABLE WIDTH)

LOT 1
40,171± S.F.
TOTAL FRONTAGE=173.59'

LOT 2
40,057± S.F.
TOTAL FRONTAGE=100.00'

LOT 3
40,086± S.F.
TOTAL FRONTAGE=100.00'

LOT 4
40,070± S.F.
TOTAL FRONTAGE=119.42'

LOT 5
64,748± S.F.
TOTAL FRONTAGE=50.87'

LOT 6
50,175± S.F.
TOTAL FRONTAGE=67.21'

LOT 7
68,409± S.F.
TOTAL FRONTAGE=67.21'

LOT 8
95,584± S.F.
TOTAL FRONTAGE=50.87'

LOT 9
40,124± S.F.
TOTAL FRONTAGE=119.41'

LOT 10
40,014± S.F.
TOTAL FRONTAGE=100.00'

LOT 11
40,041± S.F.
TOTAL FRONTAGE=100.00'

LOT 12
40,118± S.F.
TOTAL FRONTAGE=237.06'

"OSTEEN" LOT
2,700 S.F.

RIDGECREST INVESTMENT PROPERTIES LLC
LOT 1 PL.BK523 PL.23
BOOK 9636 PG.276

RIDGECREST INVESTMENT PROPERTIES LLC
LOT 2 PL.BK523 PL.23
BOOK 9636 PG.276

DRAINAGE EASEMENT

BOUND TO BE SET

MATCH LINE

RESERVED FOR REGISTRY USE

APPROVAL REQUIRED UNDER
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WESTMINSTER PLANNING BOARD

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COMMONWEALTH OF MASSACHUSETTS STANLEY R. DILLIS No. 33182 PROFESSIONAL LAND SURVEYOR

5/20/21
PROFESSIONAL LAND SURVEYOR DATE

DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisandroy.com

PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
WESTMINSTER, MASSACHUSETTS
LOT LAYOUT PLAN
BEAN PORRIDGE HILL ROAD

40 0 20 40 80 160
1 in. = 40 ft.

DESIGN BY:	DRAWN BY:	CHECKED BY:	SHEET NO.
SRD	SRD	SRD	3
DATE: 05/05/21	JOB NUMBER: 6227	DRAWING NO. 6227–SUBDIVISION	

RECORD OWNER & APPLICANT:
JP DELL LLC
340 MAIN ST.
FITCHBURG, MA

DEED REFERENCES:
BOOK 7330 PAGE 190

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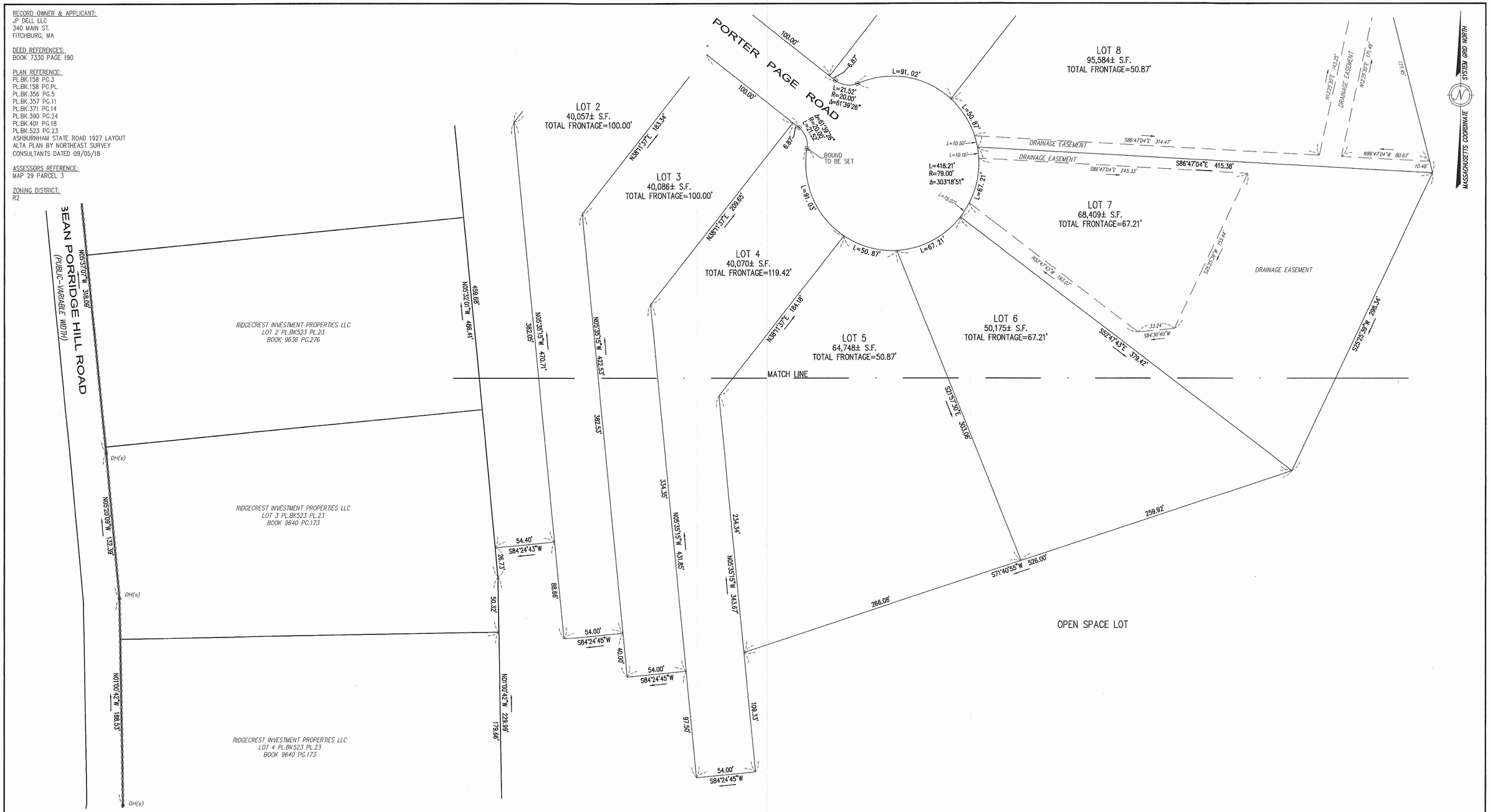
ALTA PLAN BY NORTHEAST SURVEY
CONSULTANTS DATED 09/05/18

ASSESSORS REFERENCE:
MAP 29 PARCEL 3

ZONING DISTRICT:
R2



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COMMONWEALTH OF MASSACHUSETTS
STANLEY R. DILLIS
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5/27/21
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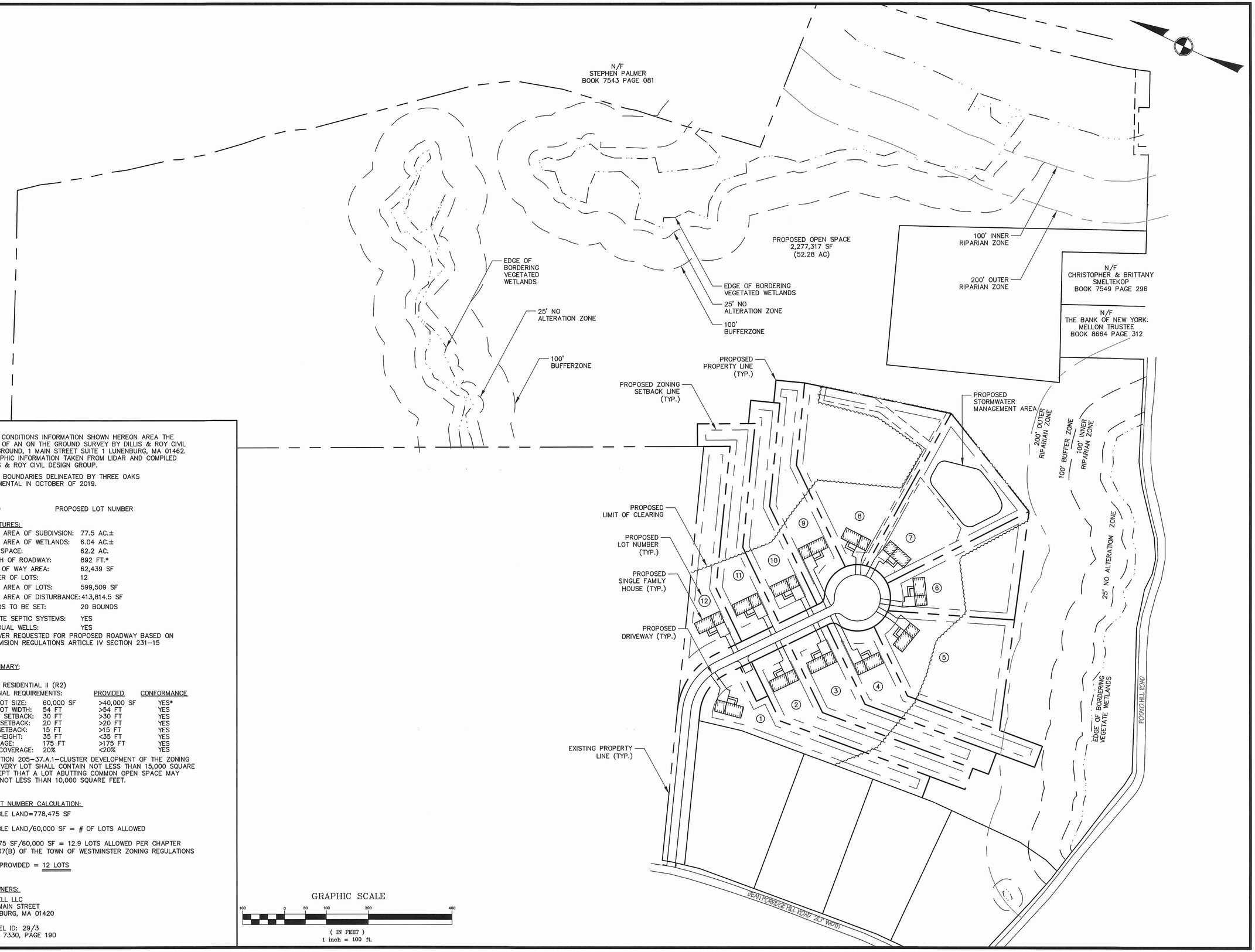
NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
WESTMINSTER, MASSACHUSETTS
LOT LAYOUT PLAN
BEAN PORRIDGE HILL ROAD

40 0 20 40 80 160
1 in. = 40 ft.

DESIGN BY:	DRAWN BY:	CHECKED BY:	SHEET NO.
SBD	GSR	GSR	4
DATE: 05/05/21	JOB NUMBER: 6227	DRAWING NO. 6227-SUBDIVISION	



NOTES:

1. EXISTING CONDITIONS INFORMATION SHOWN HEREON AREA THE RESULTS OF AN ON THE GROUND SURVEY BY DILLIS & ROY CIVIL DESIGN GROUND, 1 MAIN STREET SUITE 1 LUNENBURG, MA 01462. TOPOGRAPHIC INFORMATION TAKEN FROM LIDAR AND COMPILED BY DILLIS & ROY CIVIL DESIGN GROUP.
2. WETLAND BOUNDARIES DELINEATED BY THREE OAKS ENVIRONMENTAL IN OCTOBER OF 2019.

LEGEND:

① PROPOSED LOT NUMBER

DESIGN FEATURES:

TOTAL AREA OF SUBDIVSION:	77.5 AC.±
TOTAL AREA OF WETLANDS:	6.04 AC.±
OPEN SPACE:	62.2 AC.
LENGTH OF ROADWAY:	892 FT.*
RIGHT OF WAY AREA:	62,439 SF
NUMBER OF LOTS:	12
TOTAL AREA OF LOTS:	599,509 SF
TOTAL AREA OF DISTURBANCE:	413,814.5 SF
BOUNDS TO BE SET:	20 BOUNDS
ON-SITE SEPTIC SYSTEMS:	YES
INDIVIDUAL WELLS:	YES

* WAIVER REQUESTED FOR PROPOSED ROADWAY BASED ON SUBDIVISION REGULATIONS ARTICLE IV SECTION 231-15

ZONING SUMMARY:

DISTRICT: RESIDENTIAL II (R2)

DIMENSIONAL REQUIREMENTS:		PROVIDED	CONFORMANCE
MIN. LOT SIZE:	60,000 SF	>40,000 SF	YES*
MIN. LOT WIDTH:	54 FT	>54 FT	YES
FRONT SETBACK:	30 FT	>30 FT	YES
REAR SETBACK:	20 FT	>20 FT	YES
SIDE SETBACK:	15 FT	>15 FT	YES
MAX. HEIGHT:	35 FT	<35 FT	YES
FRONTAGE:	175 FT	>175 FT	YES
MAX. COVERAGE:	20%	<20%	YES

*PER SECTION 205-37.A.1-CLUSTER DEVELOPMENT OF THE ZONING BYLAW: EVERY LOT SHALL CONTAIN NOT LESS THAN 15,000 SQUARE FEE, EXCEPT THAT A LOT ABUTTING COMMON OPEN SPACE MAY CONTAIN NOT LESS THAN 10,000 SQUARE FEET.

CLUSTER LOT NUMBER CALCULATION:

USEABLE LAND=778,475 SF

USEABLE LAND/60,000 SF = # OF LOTS ALLOWED

778,475 SF/60,000 SF = 12.9 LOTS ALLOWED PER CHAPTER 205-37(B) OF THE TOWN OF WESTMINSTER ZONING REGULATIONS

LOTS PROVIDED = 12 LOTS

RECORD OWNERS:

JP DELL LLC
340 MAIN STREET
FITCHBURG, MA 01420

PARCEL ID: 29/3
BOOK 7330, PAGE 190

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

F:\CAD\ME\205-Dell\pgm\205.02 Potato Hill Rd\Plot\205.02P-CSP01.dwg \5/28/2021 10:39 AM \ by: Justin Leclair

NOT FOR CONSTRUCTION

THESE PLANS WERE PREPARED FOR THE PURPOSE OF OBTAINING STATE AND LOCAL PERMITS AND ARE NOT INTENDED TO BE USED AS CONSTRUCTION DOCUMENTS.

No.	Date	Revision

COMMONWEALTH OF MASSACHUSETTS
BRIAN R. MARCHETTI
CIVIL
NO. 46279
REGISTERED PROFESSIONAL ENGINEER
5/28/2021

Drawn By: JLL | Designed By: BRM | Checked By: JLL

McCarty Engineering, Inc.
Civil Engineers
42 Jungle Road, Leominster, MA 01453
phone:(978) 534-1318 fax: (978) 840-6907
www.mccartyengineering.com

Project Name

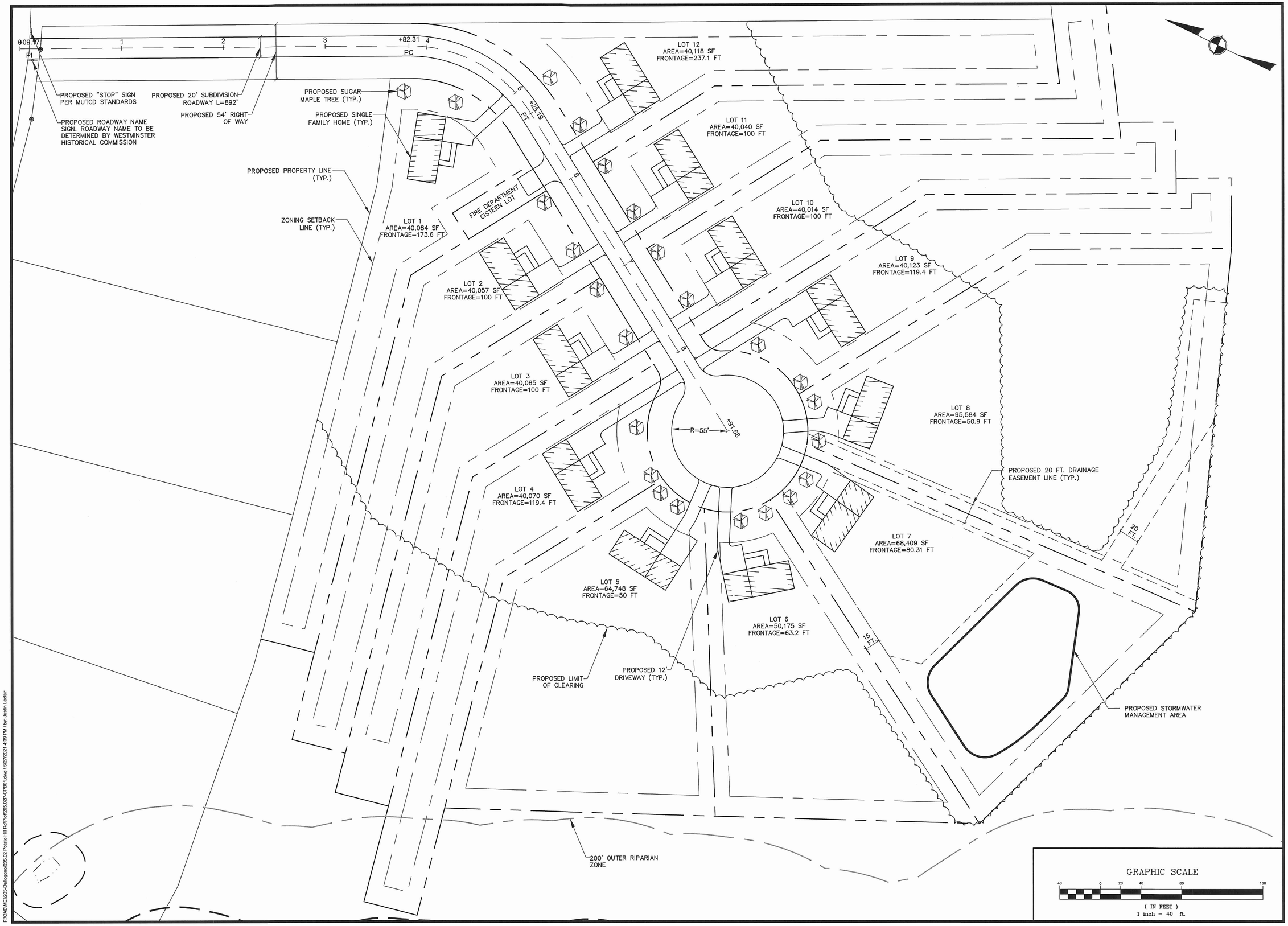
Proposed Development Porter Page Road Westminster, MA

Sheet Title

Overall Subdivision Plan

Job No: 205.02
File Name: 205.02P-CSP01
Date: May 28, 2021
Scale: 1"=100'

Sheet No. **5**



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Drawn By:	Designed By:	Checked By:
JLL	BRM	

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www.mccartyengineering.com

Project Name

Proposed Development
Porter Page Road
Westminster, MA

Sheet Title

Layout & Materials Plan

Job No: 205.02
File Name: 205.02P-CPB01
Date: May 28, 2021
Scale: 1"=40'

Sheet No.
6

PROPOSED CHECK DAM (TYP.)

PROPOSED CONTOUR (TYP.)

PROPOSED GRASS DRAINAGE SWALE

PROPOSED ELEC/TEL/CABLE SERVICE

PROPOSED 30,000 GALLON FIRE CISTERN

EXISTING CONTOUR (TYP.)

PROPOSED RAIN GARDEN (SEE DETAIL)

PROPOSED VEGETATED SWALES (SEE DETAILS)

OCS 1
INV IN=870.0
INVERT OUT=865.5

PROPOSED LEVEL SPREADER

FES 2
INVERT=821.0

24" HDPE PIPE
L=3 FT
S=0.01

DMH 6
RIM=824.0
INV IN=821.05
INV OUT=821.05

24" HDPE PIPE
L=155.0 FT
S=0.01 FT/FT

DMH 5
RIM=824.0
INV IN=822.5
INV OUT=822.5

24" HDPE PIPE
L=47 FT
S=0.01 FT/FT

APPROXIMATE SEPTIC SYSTEM LOCATION (TYP.)

DMH 1
RIM=868.0
INV IN=864.0
INV OUT=851.1

OCS 1
RIM=830.2
WEIR=828.2
INVERT OUT=823.0

PROPOSED EROSION CONTROL LINE

DMH 2
RIM=854.0
INV IN=850.0
INV OUT=837.0

DMH 3
RIM=840.0
INV IN=836.0
INV OUT=831.0

DMH 4
RIM=834.0
INV IN=830.5
INV OUT=830.5

FES 1
INVERT IN=830.0

PROPOSED LEVEL SPREADER

PROPOSED EMERGENCY SPILLWAY ELEVATION=830.75

APPROXIMATE WELL LOCATION (TYP.)

PROPOSED SEDIMENT FOREBAY RIPRAP BERM

PROPOSED INFILTRATION BASIN

DRAINAGE CULVERT SUMMARY:

C2:	C5:
2–15" HDPE	12" HDPE
L=50.0 FT	L=25 FT
S=0.01 FT/FT	S=0.04 FT/FT
INV IN=871.25	INV IN=882.0
INV OUT=870.75	INV OUT=881.0

C3:	C6:
2–12" HDPE	12" HDPE
L=25 FT	L=25.0 FT
S=0.04 FT/FT	S=0.04 FT/FT
INV IN=875.5	INV IN=886.5
INV OUT=874.5	INV OUT=885.5

C4:	C7:
2–12" HDPE	12" HDPE
L=25 FT	L=25 FT
S=0.04	S=0.04 FT/FT
INV IN=877.5	INV IN=892.0
INV OUT=876.5	INV OUT=891.0

PIPE SUMMARY:

P1/C1: HEADWALL–DMH 1	P4: DMH 3–DMH 4
18" HDPE	18" HDPE
L= 64.0 FT	L= 35.5 FT
S= 0.025 FT/FT	S= 0.015 FT/FT
P2: DMH 1–DMH 2	P5: DMH 4–FES 1
18" HDPE	18" HDPE
L= 46.5 FT	L= 42.0 FT
S= 0.025 FT/FT	S= 0.012 FT/FT
P3: DMH 2–DMH 3	
18" HDPE	
L= 39.5 FT	
S= 0.025 FT/FT	

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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Drawn By: JLL | Designed By: BRM | Checked By:

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phone:(978) 534-1318 fax: (978) 840-6907
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Project Name

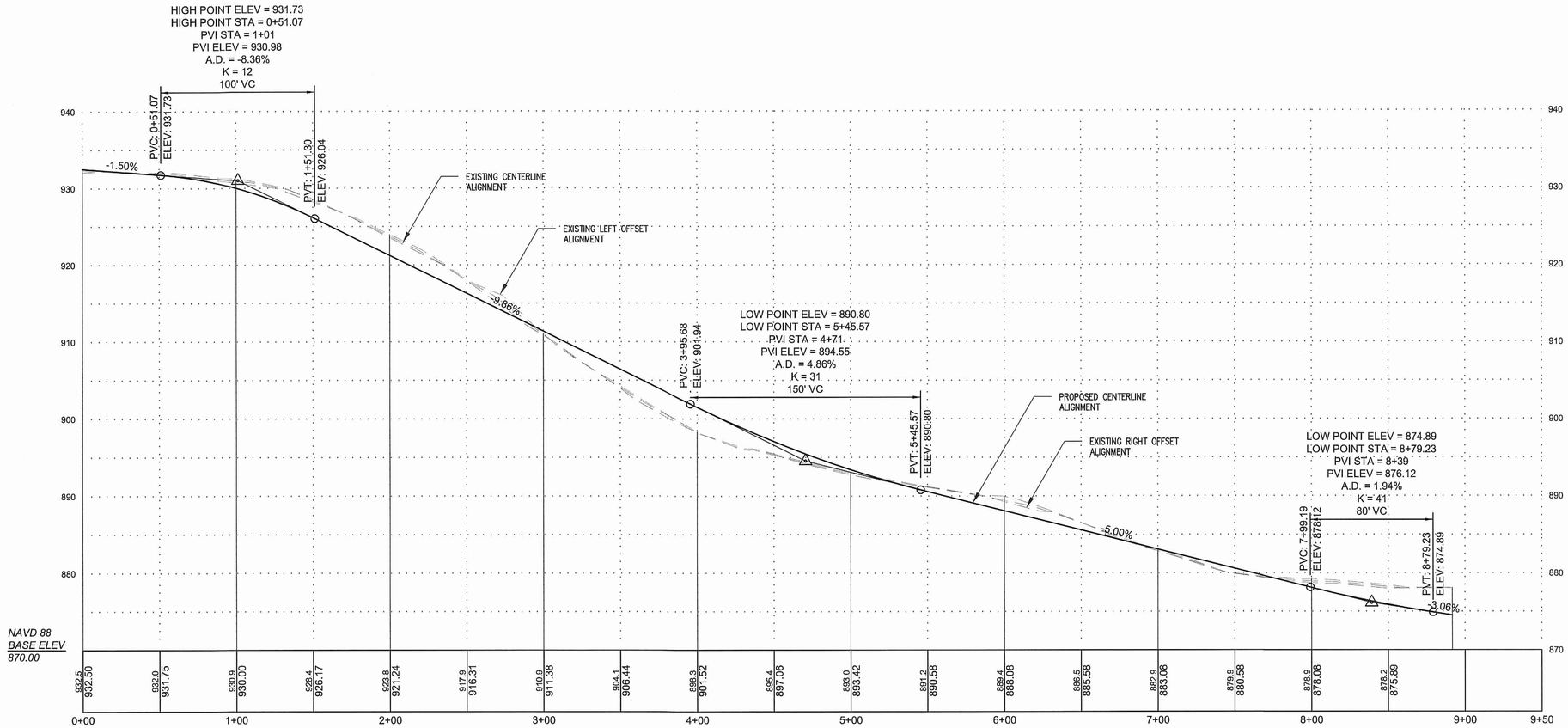
Proposed Development Porter Page Road Westminster, MA

Sheet Title

Grading & Drainage & Utility Plan

Job No: 205.02
File Name: 205.02P-CPG01
Date: May 28, 2021
Scale: 1"=40'

Sheet No. 7



ROADWAY A PROFILE

SCALE=1"=40' HORIZONTAL

1"=8' VERTICAL

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Project Name

Proposed Development
Porter Page Road
Westminster, MA

Sheet Title

Roadway Profile
Plan

Job No: 205.02
File Name:205.02P-CPF01
Date: May 28, 2021
Scale: See Scale

Sheet No.
8

INSTALL STONE CONSTRUCTION ENTRANCE

CONSTRUCTION STAGING, STOCK PILE, AND WASTE STORAGE AREA TO BE RELOCATED AS CONSTRUCTION PROGRESSES (TYP.)

STRAW WATTLES AND/OR HAYBALES SHALL BE INSTALLED BETWEEN ALL STONE CHECK DAMS WITHIN DRAINAGE SWALE UNTIL FULL VEGITATION STABILIZATION HAS OCCURED (SEE DETAIL) (TYP.)

PROPOSED DRAINAGE EASEMENT (TYP.)

DIVERT RUNOFF FROM ROAD AND DRAINAGE SWALE TO TEMPORARY SEDIMENTATION BASINS AS CONSTRUCTION PROGRESSES (TYP.)

STRAW WATTLE/SILT FENCE EROSION CONTROL LINE

TEMPORARY SEDIMENTATION BASIN TO BE LOCATED AND MOVE AS NEEDED DURING THE CONSTRUCTION PROCESS (TYP.)

POST CONSTRUCTION INFILTRATION BASIN SHALL NOT BE USED AS A INTERIM SEDIMENTATION BASIN. STORMWATER FLOWS SHALL BE DIVERTED TO THE POST CONSTRUCTION INFILTRATION BASIN ONLY AFTER THE DRAINAGE SYSTEM INSTALLED IS COMPLETE AND THE DRAINAGE SWALE IS STABILIZED

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

NOT FOR CONSTRUCTION

THESE PLANS WERE PREPARED FOR THE PURPOSE OF OBTAINING STATE AND LOCAL PERMITS AND ARE NOT INTENDED TO BE USED AS CONSTRUCTION DOCUMENTS.

No.	Date	Revision

COMMONWEALTH OF MASSACHUSETTS
BRIAN R. MARCHETTI
CIVIL
NO. 46279
REGISTERED PROFESSIONAL ENGINEER

5/28/2021

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Project Name

Proposed Development
Porter Page Road
Westminster, MA

Sheet Title

Erosion Control Plan

Job No: 205.02
File Name: 205.02P-CER01
Date: May 28, 2021
Scale: 1"=40'

Sheet No. 9

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NOTE: DURING AND AFTER THE CONSTRUCTION PERIOD, THE RESPONSIBLE PARTY FOR THE OPERATION AND MAINTENANCE OF THE SITE WILL BE THE PROPERTY OWNER / APPLICANT.

Construction Process
A sign for all job notices must be posted conspicuously near the main construction entrance to the Site.
Before construction begins, siltation control barriers consisting of silt fencing attached to wood posts and backed by staked straw wattles will be placed between the work areas and resource areas. Additional siltation control barriers will be installed around the proposed drainage and sewage disposal systems and at other critical locations. .

The Contractor will record:
1) Dates when major grading activities occur;
2) Dates when construction activities temporarily or permanently cease on a portion of the site; and
3) Dates when stabilization measures are initiated.

The time of construction requiring the most attention and care occurs between the stripping of natural overburden and the stabilization of construction areas. Cut and fill areas create additional risk by increasing the possibility of stormwater runoff causing erosion.
The Contractor will, as much as possible, leave natural cover untouched. The Contractor will limit to the shortest time possible the time that slopes are exposed. The slope stabilization will be completed as early as construction activities will allow.
During the times between clearing and landscaping, slopes will be stabilized with a combination of rip-rap, straw mulch, temporary grass seeding and other measures as necessary to prevent any significant erosion of soils.

When necessary, the Contractor shall implement structural practices to divert flows from exposed soils, retain/detain flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Placement of structural practices in flood plains must be avoided to the degree practicable. Structural measures should be placed on upland soils to the degree practicable. Such measures must be designed and installed in compliance with applicable federal, state or local requirements.
All solid materials such as washings from concrete trucks, building materials, or surplus concrete, shall not be directed to any drainage system or wetland resource area.
In conjunction with the site grading process, a number of sedimentation control procedures will be followed. The object of the procedures is to prevent the erosion of soils and the transport of sediments to the resource areas and off the site.

The Proponent shall meet the US EPA Construction General Permit requirements.

Stabilization
Temporary and permanent stabilization of disturbed surfaces is the most reliable method of preventing the erosion and transport of site soils. Toward that end, the areas that are disturbed will be provided temporary stabilization within two weeks after the last disturbance when:
1)Work is not complete in that area;
2) Work will remain incomplete for a period of two weeks or more, and
3) The planting season has not been reached in areas which will be re-vegetated.

Permanent stabilization will take place when:
4) Work is complete in that area and
5) The planting season has been reached and areas can be revegetated.

Best Management Practices Employed
To guard against the transport of soils to resource areas, several Best Management Practices (BMPs), will be employed. Siltation control barriers, sediment sumps, straw check dikes, swales, temporary settling basins, vegetative filter strips, site entrance mat, rip-rap outlet protection, flocculants with jute mesh or other biomedia, will or may be used on this site as appropriate to the needs of erosion control. Some of these items, such as sediment sumps, are temporary. Other features, such as catch basins and area drains are permanent.

Sediment from sediment traps or sedimentation ponds must be removed when design capacity has been reduced by 50 percent.

Soils
According to the Natural Resources Conservation Service Soil Survey, the soils onsite are categorized as a mix of Peru-Marlow association and Woodbridge-Paxton association.
Resource Areas
There are no Wetland Resource Areas within 100' of this project site.

INSPECTION AND MAINTENANCE OF EROSION CONTROLS

1) At all times, siltation fabric fencing, stakes and straw wattles sufficient to construct an erosion control barrier a minimum 100 feet long will be stockpiled on the Site in order to repair established barriers that may have been damaged or breached.

2) The Applicant will designate as Inspector, a person or entity other than the Site Contractor. The Inspector must be accessible seven days a week and be responsible for inspecting and coordinating the maintenance and repair of all erosion control systems on the site.

3) An inspection of all erosion control measures shall be conducted by the Inspector at least once each week until the completion of construction of the project. The Contractor shall inspect all erosion control systems daily and shall notify the Inspector of any breaches or failures. In case of any noted breach or failure, the Contractor shall immediately make appropriate repairs.

4) The Inspector shall inspect all erosion control systems on the Site before, during and after any storm event reaching one of the following thresholds:
a) Any storm event in which rain is predicted to last for 12 consecutive hours or more;
b) Any storm event for which a flash flood watch or warning is issued;
c) Any single storm event predicted to have a cumulative rainfall greater than 1/2 inch; or
d) Any storm event not meeting the previous three thresholds but which would mark the third consecutive day of measurable rainfall.

5) The Inspector shall inspect erosion control measures at times of significant increase in surface water runoff due to rapid thawing when the risk of failure of those measures is significant.

6) In such instances as remedial action is necessary, the Inspector shall cause to be repaired within three days, any and all significant deficiencies in erosion control measures.

EROSION CONTROL DEVICES

1) Site Entrance Mat
A Site Entrance Mat will be installed at the construction entrance to the site. It will consist of a 30-foot long, 6-inch thick layer of 1-1/2" to 3" crushed stone overlying a 6-inch thick layer of 3" to 6" crushed stone. The site entrance mat will be installed over a compacted base (see details sheet). The crushed stone will be refreshed as necessary.
If earthern products are transported onto Redemption Rock Trail during any of the construction phases, than the site contractor is responsible for removing these earthern products.
2) Erosion Control Barriers
The Erosion Control Barriers will consist of an approved siltation fabric fencing installed on posts according to the manufacturer's instructions and backed by staked straw wattles where appropriate. The filter fabric and straw wattles will be placed in a manner that prevents the passage of soil materials under, around or over the fencing. Any Sediment that has been captured against the barrier will be removed promptly and the area that has areas of erosion will be stabilized promptly.
3) Straw wattle Diversion Dikes
Straw wattles will be placed in other locations on the site in order to further prevent the flow of sediment from the site or reduce the velocity of runoff crossing open land or running off of stockpile or fill areas. Straw wattle diversion dikes will also be placed within developing rills to reduce surface runoff velocities and to shift the path of the water flow. The locations where straw wattle diversion dikes are installed will be determined in the field at the Inspector's discretion.
4) Slope Stabilization
Slopes or surfaces that are created due to excavation or filling of the site will be stabilized with one or more of the following:
- Straw mulch,
- Softwood and hardwood chips, or
- In areas that will be steeper than 2.5:1 after construction, the slope will be stabilized by the placement of erosion control blanket or heavy rip-rap. The rip-rap slope to be placed will be formed by placing heavy stone on a one foot thick layer of gravel.

Permanent stabilization of slopes and surfaces will employ one or more of the following:
- Loam and grass,
- Sod,
- Rip-Rap, or
- A combination of grasses, rip-rap and/or plants and shrubbery.

5) Runoff Diversion Swales
Runoff Diversion Swales will be provided in order to intercept sheet and concentrated flows above areas of cut, above abutting properties and above resource areas. The swales will direct runoff to sediment sumps or temporary settling basins or to detention basins.
6) Sediment Sumps
Sediment Sumps are excavated depressions 10-foot in diameter and 2-feet deep. The sumps will collect runoff from the unfinished drive and slopes and will allow sediment to settle out before flow continues to a detention area or siltation control barrier. Sediment sumps will be cleaned whenever the accumulated sediment has reached one-half of the original depth of the sump.
7) Stone-Lined Sediment Sumps
A 10-foot diameter, 2-foot deep, Stone-Lined Sediment Sump will be installed at all points where storm water is discharged from the piped collection system. These sumps will serve to collect sediment which may erode from the Site during the construction period. Sediment will be removed from a Stone-Lined Sediment Sump when it has reached one-half of the original capacity. Stone-Lined Sediment Sumps will be cleaned and remain in place after permanent stabilization of the Site has been achieved.
8) Temporary Settling Basins
A Temporary Settling Basin is a large, excavated sediment sump that has a stone face overflow leading to a swale or to a drainage inlet structure. The size varies with the area draining to it. Temporary settling basins will be cleaned whenever the accumulated sediment has reached one half of their original depth.
9) Rip-Rip Outlet Protection
Rip-rap outlet protection is a stone apron beginning at a drainage system discharge point and extending down the slope. The rip-rap will serve to reduce the velocity of the discharge, thereby preventing erosion.

WASTE DISPOSAL
All waste materials will be collected and stored securely in metal dumpsters. The dumpster will meet local and state solid waste management regulations. All trash and construction debris will be deposited in the dumpster and emptied as necessary. A licensed company in accordance with applicable Federal, State, and local regulations will transport the trash. No trash or construction debris will be buried on site. The disposal of liquid waste is not allowed. Individuals working on the site will be informed of the appropriate procedure for the disposal of construction debris.
The site contractor shall be responsible for ensuring that the project site is free of litter and refuse.

HAZARDOUS WASTE
All hazardous waste materials will be disposed of in accordance with applicable Federal, State and local regulations and in accordance with the manufacturer's recommendations. Individuals working on the site will be informed of the appropriate procedures for waste disposal. The construction supervisor will be responsible for overseeing that the proper procedures are followed.

SANITARY WASTE
All sanitary waste will be collected in a timely manner by a licensed contractor and disposed of in accordance with Federal, State, and local regulations.

EQUIPMENT & VEHICLE FUELING AND MAINTENANCE PRACTICES
Large equipment will be fueled by an over the road fuel truck and small equipment will be fueled by fitted pickup truck fuel tanks. All equipment will be fueled at a minimum 100 feet from any wetland and/or water body. Fueling areas will be inspected for signs of leaks or spills.

EQUIPMENT & VEHICLE WASHING
No heavy equipment and vehicle washing will be allowed on the site. All construction equipment will be parked in the designated staging area at least 100-feet from any wetland or water body.

SPILL PREVENTION AND CONTROL
All construction personnel will be instructed regarding the following measures.
The site construction supervisor will be responsible for overseeing that all spill prevention procedures will be adhered to. No storage , stockpiling, or staging of equipment or construction material will occur within 100-feet of any wetland or waterbody.
All materials stored onsite will be maintained in an orderly manner and in their appropriate containers. Materials will be kept in there original containers with their original labels. Substances will not be mixed with one another unless recommended by the manufacturer. The manufacturers guidelines for the proper use and disposal will be implemented.
The construction supervisor will inspect the premises regularly to ensure proper use and disposal of materials.

PETROLEUM PRODUCTS
All onsite construction machinery and vehicles will be monitored for leaks and will receive regular preventive maintenance to reduce the likelihood of leakage. No vehicle maintenance or handling of petroleum of products will occur within 100-feet of any wetland or waterbody. No petroleum products will stored onsite

FERTILIZERS
Fertilizers will be applied at the minimum amount recommended by the manufacturer. The storage of fertilizer products will not be allowed onsite.

SOLVENTS & PAINTS
All containers will be sealed and stored when not used. Excess material will not be discharged to the storm and or sewer systems and will be properly disposed of according to the manufacturers specifications including all Federal, State, and local regulations. No storage will occur within 100' of a wetland or waterbody.

CONCRETE TRUCK WASHOUT
Concrete trucks will discharge into temporary basins, where the concrete will be allowed to cure. Once the concrete is cured, the concrete will be broken up and used as common fill or hauled off site.

SPILL CONTROL PRACTICES
All of the manufacturers recommended methods for spill cleanup will be clearly posted and site personnel will be informed of the necessary procedures and the location of the cleanup supplies
Materials and the equipment necessary for cleanup of a spill will be kept on site in a designated area. Examples of cleaning equipment are: shovels, rakes, wheel barrows, brooms, dust pans, mops ,rags, safety gloves and eye wear, absorbent foams, sand, sawdust, and plastic or metal bins designated specifically for spill cleanup. After discovery, all spills will be removed as soon as possible.

REPORTING
Reportable Spills, toxic or hazardous (10 gallons or more for petroleum), material will be reported to the Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup Central Regional Office, 627 Main Street, Worcester, MA 01608-ph-508-792-7653
The construction superintendent will be responsible for spill prevention and cleanup coordinator and supervisor. The construction supervisor is responsible for educating the construction personnel of the protocol in the event of a spill.

NON STORMWATER DISCHARGES
The following non-stormwater discharges are expected as part of the proposed project during the construction phase:
Water from utility flushing and dust control, pavement wash water, where no spills or leaks of toxic or hazardous materials have occurred, uncontaminated groundwater during the dewatering excavations.
Non-stormwater discharges will be directed to vegetated surfaces and or temporary settling basins prior to discharge to wetlands and/or waterways.

SEQUENCE OF INSTALLATION AND CONSTRUCTION
Prior to the start of earth-moving activities, the sediment control barriers shall be installed along the limit of work as shown on the site plans.

CONSTRUCTION ACCESS
At each construction entrance, a stone entrance mat shall be installed to remove soil material from the equipment tires. Any other bare construction routes or equipment staging areas shall be stabilized with gravel, wood chips, or temporary vegetation.

LAND CLEARING AND GRADING
To the extent practicable, clearing, grubbing and stripping shall be limited. Whenever practical,existing strips of vegetative cover will be preserved between cleared areas and resource areas to provide runoff filtration. All slopes shall be brought to finish grade and stabilized as soon as possible. Slopes between 1:1 and 2:1 steepness shall be stabilized with erosion control fabric, and/or rip-rap armoring. Slopes between 2:1 and 3:1 shall be stabilized with a bonded fiber matrix, hydroseeding or seed and erosion control blanketing. Slopes which are 3:1 and flatter shall be stabilized with hydroseeding and/or hand seeding. Additional run-off control measures shall be installed as grading progresses, to include temporary basins, dikes, and swales.

TEMPORARY SEDIMENT BASINS AND SUMPS
As needed within construction phases temporary sediment basins and sumps will be excavated prior to further soil disturbance on the site. The basins shall include stone and filter fabric. The basin slopes and bottom shall be stabilized with loam, seed, and/or an erosion control product, and a stabilized exit spillway shall be constructed with a filter fabric and stone apron. Temporary riser pipes may be utilized to allow retention and treatment with controlled release of stormwater runoff during construction. The basins may be over excavated as needed to provide storage for, at a minimum, 1,800cf per disturbed acre of run-off. Additional temporary sediment basins or sediment sumps, may be constructed as necessary to store and infiltrate run off. Sediment sumps are excavated depressions of a minimum 10-foot diameter and a 2-foot depth and strategically installed to reduce velocities and to provide sediment trapping. Basins and sumps will be inspected weekly, before and after significant storm events.

RUN OFF CONTROL AND CONVEYANCE SYSTEMS
As needed, diversion swales and/or dikes leading into the basins shall be constructed and stabilized utilizing earth, crushed stone, or haywattles. Additional swales or dikes shall be constructed as necessary to divert runoff into temporary sediment basins. Stone check dams shall be installed at appropriate intervals.

STOCKPILING
Soil stockpiling shall take place in designated areas, outside of the Wetland Buffer Zones. Any stockpiling that will remain inactive for more than 2 weeks shall be hydroseeded or covered with plastic covers.

SURFACE STABILIZATION
Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is completed or delayed greater than 2 weeks.

BUILDING SITE PREPARATION
The proposed building construction areas will be cleared and grubbed and stabilization shall be provided between construction increments.

LANDSCAPING AND FINAL STABILIZATION
After construction is complete in a given area any exposed soils will be stabilized by hydroseeding and or landscaping.

CONSTRUCTION SEQUENCING:

CONSTRUCTION SCHEDULE
The following is a general construction sequence for the construction of the Site. The actual schedule may vary somewhat from that stated if site or weather conditions require a different schedule and if such change does not negatively affect the prevention of pollution.

- The Applicant will hold a pre-construction meeting with representatives of the Town, the Engineer, Contractor's employees and the Inspector in order to review permits, procedures and construction methods.
- Establish the Site Entrance Mat at the construction entrance to the site.
- Establish a construction staging and equipment storage area protected against erosion by lines of staked straw wattles and siltation fencing.
- Install the siltation control barriers between the work areas and in other locations as shown within the plan set.
- Tree and Brush clearing
- Strip and Stockpile Topsoil
- Place the straw bales or fencing at least five feet from the base of the loam pile, if applicable.
- Establish and build temporary sedimentation basins.
- Excavate for roadway.
- Excavate for fire cistern.
- Excavate for utility trench.
- Excavate for driveways.
- Import structural fill.
- Export ordinary fill.
- Establish and build the drainage discharge points, and various additional erosion control measures.
- Install drainage system, including pipes, drain manholes and culverts.
- Install underground electrical.
- Install fire cistern.
- Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is completed or delayed greater than 2 weeks.
- Lay binder course of pavement for roadway.
- Install landscape material and site improvements.
- Remove accumulated sediment and temporary erosion control measures after all slopes have been permanently stabilized and the risk of erosion has passed.
- Excavate footprint of single family home to footing depth.
- Form and pour concrete footings and foundation walls. After concrete cures, backfill footing and foundation to proposed grades.
- Construct single family home
- Install septic system and well per approved plan.
- Lay binder and finish course for driveway.

STORMWATER SYSTEM OPERATION & MAINTENANCE PROGRAM

STORMWATER MANAGEMENT SYSTEM OWNER/OPERATOR
- The project Developer will be the owner and operator of the proposed stormwater collection system on site until the subdivision roadway is accepted by the Town.
- When the subdivision is accepted by the Town, the responsibility of the Operation and Maintenance Plan will be transferred to the Town of Westminster.

WATER QUALITY SWALE
- Swale should be inspected monthly for the first few months after construction and twice a year thereafter.
- Swale should be cleaned of sediment and debris at least once per year or more frequently as needed.
- Vegetated swale should be mowed on an as needed basis, depending on vegetation conditions.
- Swale should be reseeded as necessary if any erosion has occurred.
- All sediments and hydrocarbons should be properly handled and disposed, in accordance with local, state, and federal guidelines and regulations.

SEDIMENT FOREBAY
- The sediment forebay should be inspected on a monthly basis or more frequently as needed.
- Sediment forebay shall be cleaned four times per year.

All sediments and hydrocarbons should be properly handled and disposed, in accordance with local, state, and federal guidelines and regulations.

RAIN GARDEN
- Once constructed, the rain garden will be inspected monthly to remove trash and confirm drainage system functions, bank stability, and vegetation growth. Problems will be addressed immediately.
- During the first six months of operation, the basin will be inspected immediately after significant storm events and cleaned to remove sediment buildup.
- The outlet spillway will be inspected and repaired where sediment appears to have built up, or the riprap has settled.
- The rain garden shall be mulched, fertilized, dead vegetation removed and pruned once a year.

AT GRADE INFILTRATION BASIN
- Once constructed, the basin will be inspected at a minimum after several storm events to confirm drainage system functions, bank stability, and vegetation growth. Problems will be addressed immediately.
- During the first six months of operation, the basin will be inspected immediately after significant storm events and cleaned to remove sediment buildup.
- The outlet structure will be inspected and repaired where sediment appears to have clogged the invert.
- A stake shall be placed at the bottom of the pond with marks at 1" increments to measure the sediment accumulation. Sediment will be removed from ponds at a minimum when accumulation is at 4", but as often as necessary, and at least once every 10 years.
- At least twice during the growing season, the side slopes will be mowed, and accumulated trash and debris removed. Accumulated sediment in forebay will also be removed at this time

NOT FOR CONSTRUCTION
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No.	Date	Revision

BRIAN R. MARCHETTI CIVIL NO. 46279 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS
5/28/2021

Drawn By: JLL | Designed By: BRM | Checked By:

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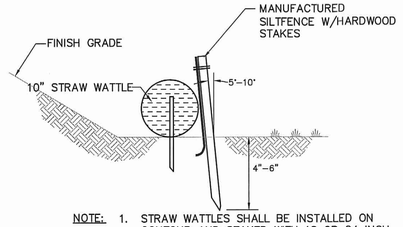
Project Name
Proposed Development
Porter Page Road
Westminster, MA

Sheet Title
Erosion Control Notes

Job No: 205.02 | Sheet No. 10
File Name: 205.02P-NOTES01
Date: May 28, 2021
Scale: N.T.S.

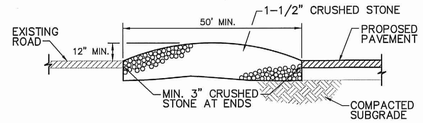


NOTE: 1. STRAW WATTLES SHALL BE INSTALLED ON CONTOUR AND STAKED WITH 18 OR 24 INCH WOOD STAKES AT FOUR FEET ON CENTER

2. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES ½ OF ROLL HEIGHT

STRAW WATTLE / SILT FENCE DETAIL

N.T.S.



NOTES:

THE PURPOSE OF THIS TEMPORARY BERM IS TO REMOVE MUD FROM THE TIRES OF VEHICLES LEAVING THE SITE DURING CONSTRUCTION.

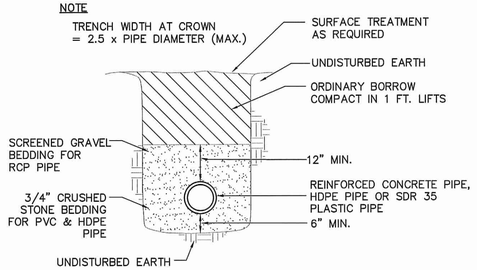
PROVIDE LEVEL AREA OF CRUSHED STONE 50 FEET IN FROM EDGE OF EXISTING ROAD.

TEMPORARY ENTRANCE BERM

N.T.S..

NOTE

TRENCH WIDTH AT CROWN = 2.5 x PIPE DIAMETER (MAX.)

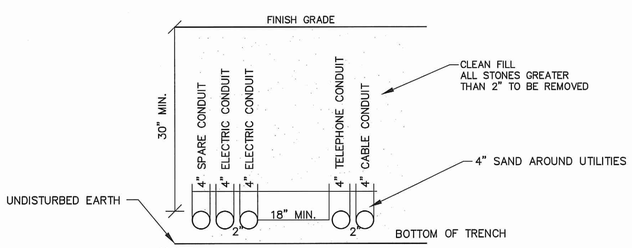


NOTES:

1. TRENCH EXCAVATION WIDTH TO ALLOW FOR FREE TRAVEL OF COMPACTION EQUIPMENT
2. ALL COMPACTION TO A MINIMUM 95 PERCENT DRY DENSITY DETERMINED BY ASTM D1557.
3. SEE MANUFACTURERS SPECIFICATIONS FOR ADDITIONAL INSTALLATION REQUIREMENTS
4. AVOID HEAVY EQUIPMENT LOADS OVER PIPE DURING CONSTRUCTION

DRAIN PIPE TRENCH DETAIL

N.T.S.



NOTE:
ELECTRIC CONDUITS SHALL BE CONCRETE ENCASED IF REQUIRED BY ELECTRICAL PROVIDER.

TYPICAL ELECTRIC UTILITY TRENCH DETAIL

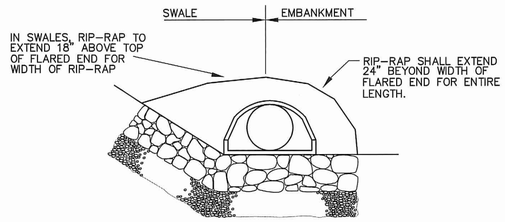
N.T.S.

RIP-RAP SPECIFICATIONS

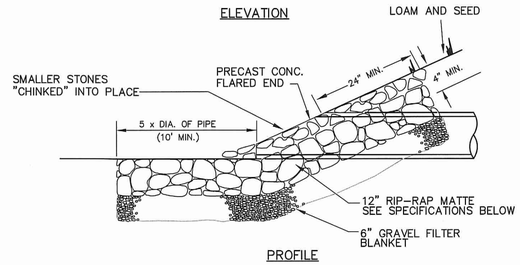
1. THE RIP-RAP SHALL BE COMPRISED OF DURABLE STONE WHICH MEETS THE FOLLOWING GRADATION REQUIREMENTS:

STONE SIZE	% OF TOTAL WEIGHT SMALLER THAN GIVEN SIZE
125 LB.	100%
50 LB.	0%

2. THE RIP-RAP SHALL BE UNDERLAYED WITH A FILTER BLANKET CONSISTING OF CLEAN, COARSE GRAVEL WITH NO STONES OVER 3" AND FEWER THAN 10% PASSING A #200 SIEVE.
3. THE FILTER BLANKET NEED NOT BE COMPACTED, BUT SHALL BE GRADED TO A UNIFORM SURFACE WITH A MINIMUM THICKNESS OF 6".



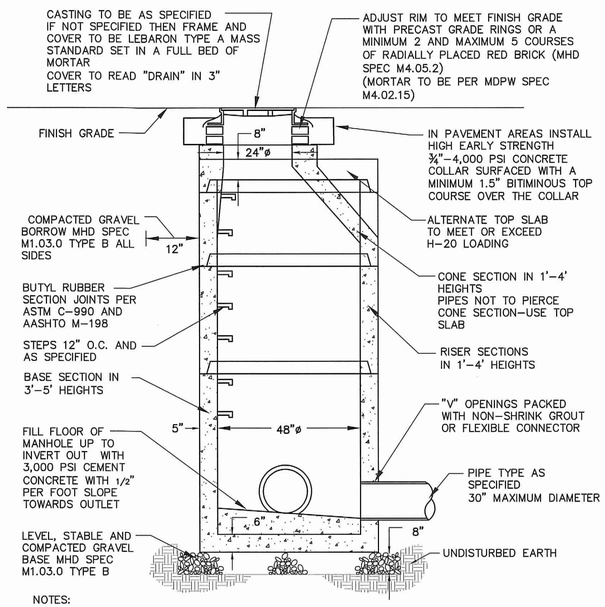
ELEVATION



PROFILE

FLARED END W/RIP-RAP DETAIL

N.T.S.

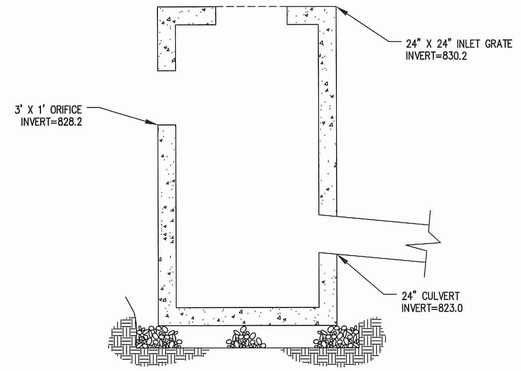


NOTES:

1. EXCAVATION TO ALLOW FOR FREE TRAVEL OF COMPACTION EQIPMENT
2. ALL COMPACTION TO A MINIMUM 95 PERCENT DRY DENSITY DETERMINED BY ASTM D1557 SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
3. ALL PRECAST TO MEET OR EXCEED ASTM C-478 AND ASSHTO M 199 SPECIFICATIONS
4. REINFORCED STEEL TO MEET OR EXCEED ASTM A185 AND H-20 LOADING REQUIREMENTS
5. ALL PRECAST CONCRETE TO BE 4,000 PSI MIMIMUM AND MEET ASTM C-478 (6.1)
6. IF NO STEPS ARE SPECIFIED THAN AS THE LOCAL MUNICIPALITY REQUIRES OR IF NO MUNICIPLAITY REQUIREMENTS THEN COPOLYMER POLYPROPYLENE COATED REINFORCED PER ASTM C-478 AND OSHA (STD 1-1.9)
7. CONTRACTOR TO CONFIRM WITH CITY OR TOWN DPW THAT BRICK INVERTS ARE NOT A REQUIREMENT
8. FILL ALL INTERNAL AND EXTERNAL HOLES WITH NON-SHRINK GROUT

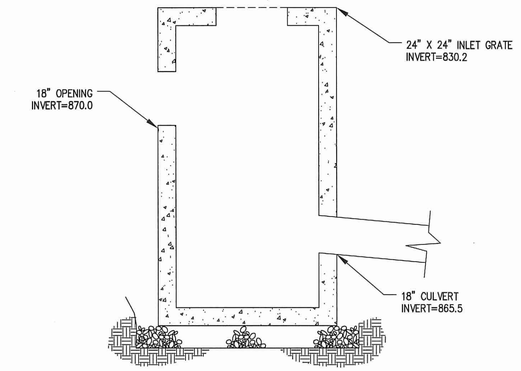
PRECAST CONCRETE DRAIN MANHOLE DETAIL

N.T.S.



OUTLET CONTROL STRUCTURE 2 DETAIL

N.T.S.



OUTLET CONTROL STRUCTURE 1 DETAIL

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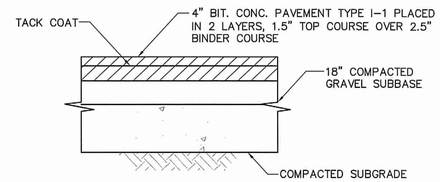
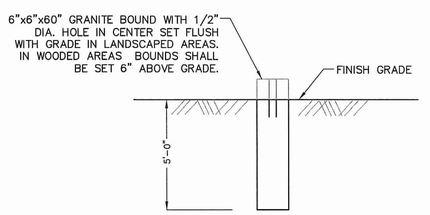


BITUMINOUS CONCRETE PAVEMENT DETAIL

N.T.S.



GRANITE BOUND DETAIL

N.T.S.

NOT FOR CONSTRUCTION

THESE PLANS WERE PREPARED FOR THE PURPOSE OF OBTAINING STATE AND LOCAL PERMITS AND ARE NOT INTENDED TO BE USED AS CONSTRUCTION DOCUMENTS.

No.	Date	Revision

COMMONWEALTH OF MASSACHUSETTS — BRIAN R. MARCHETTI — CIVIL — NO. 46279 — REGISTERED PROFESSIONAL ENGINEER

5/28/2021

Drawn By: JLL | Designed By: BRM | Checked By:

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Civil Engineers
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phone:(978) 534-1318 fax: (978) 840-6907
www.mccartydb.com

Project Name

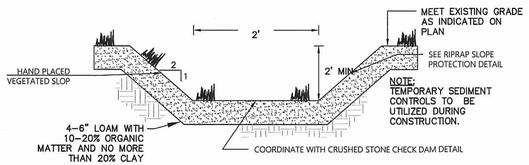
Proposed Development
Porter Page Road
Westminster, MA

Sheet Title

Construction Details

Job No: 205.02
File Name: 205.02P-DET01
Date: May 28, 2021
Scale: N.T.S.

Sheet No. 11

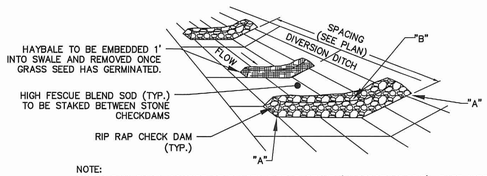


NOTE:

1. VEGETATION COVER WITHIN THE SWALE TO BE "NEW ENGLAND EROSION CONTROL/RESTORATION MIX" BY NEW ENGLAND WETLAND PLANTS, INC. APPLY AS SPECIFIED BY DISTRIBUTOR. ANY SUBSTITUTION MUST BE APPROVED BY THE ENGINEER. APPLY IN BOTH DIRECTIONS WITH A WOOD BASED BONDED FIBER MATRIX (HYDRO SEED SLURRY) AT A RATE OF 3000 SF PER POUND

WATER QUALITY SWALE

N.T.S.



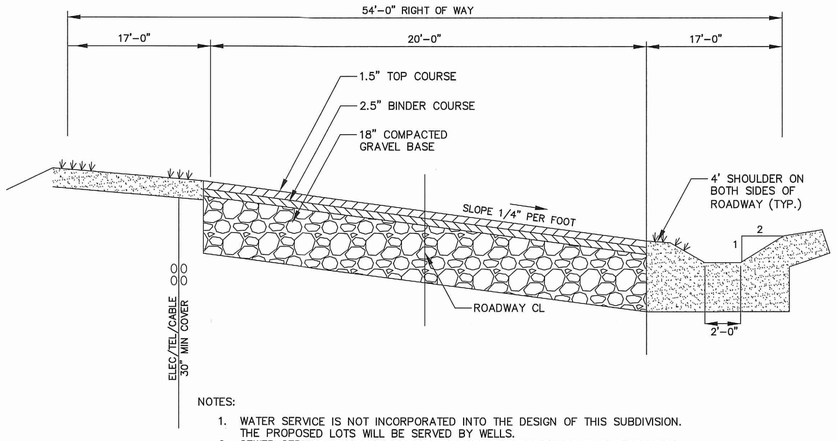
NOTE:
CHECK DAM SHALL CONSIST OF PLACED RIPRAP STONE (MASSDOT M2.02.2); BASE WIDTH TO BE 24"± AND HEIGHT & TOP WIDTH TO BE 12"±. LENGTH SHALL BE SUFFICIENT TO ESTABLISH ELEVATION "A" AT LEAST 6" ABOVE OVERFLOW ELEVATION "B"

RIP RAP CHECK DAM DETAIL

N.T.S.

LANDSCAPING NOTES

1. NOTIFY DIG-SAFE AT 1-888-DIG-SAFE AND LOCAL AUTHORITIES PRIOR TO ANY TYPE OF SITE PREPARATION OR CONSTRUCTION.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIAL AND MULCH IN SUFFICIENT QUANTITIES TO COMPLETE PLANTING AS SHOWN ON THE DRAWINGS.
3. DRAWING QUANTITIES TAKE PRECEDENCE OVER PLANT LIST QUANTITIES.
4. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES SET FORTH BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
5. ALL TREES AND SHRUBS SHALL BE PLANTED WITH THE "BEST FACE" SHOWING. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN, UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT.
6. ALL CONTAINER GROWN STOCK SHALL BE HEALTHY, VIGOROUS, WELL ROOTED AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE GROWING. THEY SHALL HAVE TOPS OF GOOD QUALITY, NO APPARENT INJURY AND BE IN A HEALTHY GROWING CONDITION. A CONTAINER GROWN PLANT SHALL HAVE A WELL ESTABLISHED ROOT SYSTEM REACHING THE SIDES OF THE CONTAINER TO MAINTAIN A FIRM BALL.
7. THE QUALITY OF ALL TREES & SHRUBS IS TO BE NORMAL FOR THE SPECIES. ALL PLANTS ARE TO HAVE DEVELOPED ROOT SYSTEMS, TO BE FREE OF INSECTS AND DISEASES AS WELL AS MECHANICAL INJURIES, AND IN ALL RESPECTS BE SUITABLE FOR PLANTINGS.
8. ALL CONIFERS SHALL HAVE DORMANT BUDS AND SECONDARY NEEDLES.
9. WHERE SPECIFIED, CALIPER SIZE IS TO BE THE OVERRIDING FACTOR IN TREE SELECTION. CALIPER SIZE SHALL BE MEASURED 12" ABOVE THE ROOTBALL.
10. PLANT SUBSTITUTIONS ARE NOT ALLOWED UNLESS APPROVED BY THE PROJECT LANDSCAPE ARCHITECT.
11. ALL DISTURBED AREAS NOT SHOWN OTHERWISE SHALL BE LOAMED AND SEEDED AND BLENDED INTO EXISTING GRADE AND CONDITIONS.
12. PRIOR TO INSTALLING ANY PLANT MATERIAL, THE CONTRACTOR SHALL SUBMIT A LOAM SOIL SAMPLE FOR A ROUTINE, ORGANIC, SALTS, AND NITRATE SOIL TEST. UPON THE RESULTS OF THIS TEST, THE SITE CONTRACTOR SHALL AMEND THE LOAM AS RECOMMENDED. SEND THE SOIL SAMPLE TO THE UNIVERSITY OF MASSACHUSETTS SOIL AND PLANT TISSUE TESTING LABORATORY, WEST EXPERIMENT STATION, 682 NORTH PLEASANT ST., UNIVERSITY OF MASSACHUSETTS, AMHERST, MA 01003.
13. LAWN SEED MIX SHALL BE THE PREVIOUS YEARS CROP: 35% JEFFERSON KENTUCKY BLUEGRASS, 35% CARMEN CHEWING FESCUE AND 30% STALLION PERENNIAL RYEGRASS, OR APPROVED EQUAL. PLANT AT A RATE OF 1 LB. PER 150 SQUARE FEET.
14. LAWN SEED AREAS SHALL BE NOT BE DEEMED ACCEPTABLE UNTIL IN EXCESS OF 90% OF EACH AREA, INDEPENDENTLY, IS GERMINATED, GROWING AND DISPLAYING HEALTHY, UNIFORM GROWTH AND HAS BEEN CUT TWICE. THE SITE CONTRACTOR IS RESPONSIBLE FOR APPLYING AT A MINIMUM 1" OF WATER A WEEK UNTIL THE SEEDED AREAS HAVE BEEN ACCEPTED. THE WATERING SHALL OCCUR IN SMALL DOSES. THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY WEEDS (CRAB GRASS) WITHIN THE SEEDED AREAS UNTIL THE SEEDED AREAS HAVE BEEN ACCEPTED.
15. THE HYDRO SEED SLURRY SHALL BE A WOOD BASED BONDED FIBER MATRIX. THE APPLICATION RATE SHALL BE 2,500-3,000LB. PER ACRE SPRAYED IN A LEAST TWO DIRECTIONS. DO NOT APPLY HYDRO SEED SLURRY IF RAIN IS EXPECTED WITHIN 12 HOURS, AND WHEN TEMPERATURES ARE BELOW 50 DEGREES.
16. PRIOR TO PLANTING, THE LANDSCAPER SHALL REVIEW AND COORDINATE WITH THE SITE UTILITY PLAN AND GRADING PLAN.
17. THE ROOTS OF NEWLY PLANTED TREES AND SHRUBS MUST BE KEPT STEADILY MOIST, AS THE DEVELOPING ROOTS ESTABLISH IN THE NEW SOIL. AT PLANTING, WATER THOROUGHLY TO SOAK THE ROOTS AND TO SETTLE THE NEW SOIL AROUND THE ROOT BALL THE AMOUNT OF SUPPLEMENTAL WATER NEEDED EACH WEEK DURING THE FIRST GROWING SEASON AFTER PLANTING DEPENDS ON RECENT RAINFALL, TEMPERATURE, AND WIND. IF LESS THAN ONE-INCH OF RAIN HAS FALLEN OVER THE PAST FIVE TO SEVEN DAYS, THE NEW PLANTINGS MUST BE WATERED. LAWNS, TREES, AND SHRUBS WATERING SHALL OCCUR AT A MINIMUM OF TWO (2) TIMES A DAY FOR THE FIRST TWO (2) MONTHS, ONCE IN THE EARLY MORNING AND THEN THE OTHER IN THE LATE AFTERNOON. IN GENERAL TEN GALLONS OF WATER APPLIED TWICE A WEEK WILL WET A 20"-24" ROOT BALL AND PROVIDE THE EQUIVALENT OF ONE INCH OF RAIN FALL. NEW LAWNS SHALL BE WATERED SO THAT IS RECEIVES AT A MINIMUM ONE INCH (1") OF WATER EVERY WEEK.
18. WITHIN THE LANDSCAPE BEDS ADJACENT TO THE BUILDING FOUNDATIONS, NO (HEMLOCK, PINE, SPRUCE, OR CEDAR) MULCH OR OTHER COMBUSTIBLE LANDSCAPE MATERIALS SHALL BE INSTALLED WITHIN 18' OF THE FOUNDATION.
19. ALL LANDSCAPE BEDS SHALL RECEIVE THREE-INCHES OF BARK MULCH.
20. LANDSCAPE AREAS SHALL BE DEEP TILLED TO A DEPTH OF TWELVE INCHES TO FACILITATE DEEP WATER PENETRATION.

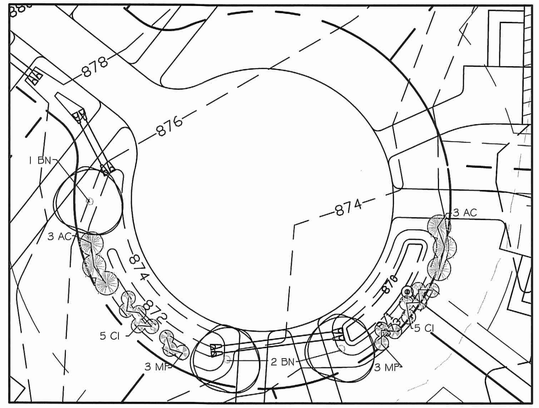


NOTES:

1. WATER SERVICE IS NOT INCORPORATED INTO THE DESIGN OF THIS SUBDIVISION. THE PROPOSED LOTS WILL BE SERVED BY WELLS.
2. SEWER SERVICE IS NOT INCORPORATED INTO THE DESIGN OF THIS SUBDIVISION. THE PROPOSED LOTS WILL BE SERVICED BY INDIVIDUAL SEPTIC SYSTEMS.
3. THE LOW IMPACT DEVELOPMENT DESIGN INCORPORATES COUNTRY DRAINAGE AND A ROADSIDE SWALE IN LIEU OF CATCH BASINS AND DRAINAGE PIPE WITHIN THE R.O.W.

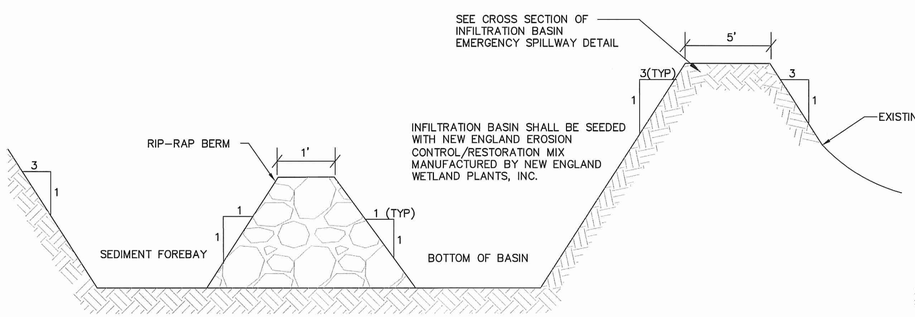
STANDARD ROADWAY CROSS-SECTION

N.T.S.



CUL-DE-SAC PLANTING ENHANCEMENTS

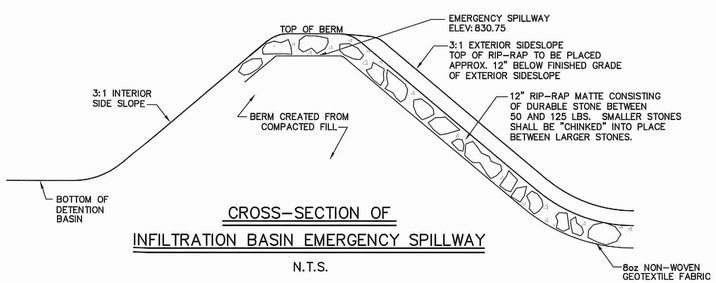
1"=30'



NOTE:
1. SEAL AROUND OUTLET PIPE WITH IMPERVIOUS BARRIER
2. A 6" PERFORATED UNDERDRAIN SHALL BE INSTALLED IN EACH INFILTRATION BASIN WITH A 6" VALVE THAT SHALL BE EASILY ACCESSIBLE AND SHALL REMAIN CLOSED DURING NORMAL OPERATION. THE UNDERDRAIN SHALL OUTLET IN THE RIP RAP MAT AS SHOWN ON THE GRADING AND DRAINAGE PLANS.

CROSS-SECTION OF TYPICAL INFILTRATION BASIN DETAIL

N.T.S.



CROSS-SECTION OF INFILTRATION BASIN EMERGENCY SPILLWAY

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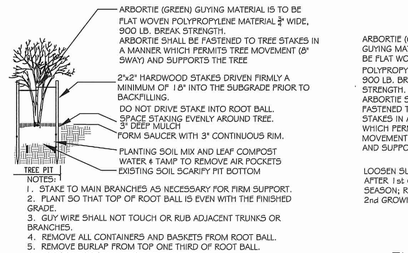
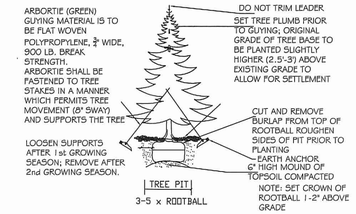


NOTES:
1. STAKE TO MAIN BRANCHES AS NECESSARY FOR FIRM SUPPORT.
2. PLANT SO THAT TOP OF ROOT BALL IS EVEN WITH THE FINISHED GRADE.
3. GUY WIRE SHALL NOT TOUCH OR RUB ADJACENT TRUNKS OR BRANCHES.
4. REMOVE ALL CONTAINERS AND BASKETS FROM ROOT BALL.
5. REMOVE BURLAP FROM TOP ONE THIRD OF ROOT BALL.
6. LOOSEN ROOTBALL PRIOR TO PLANTING.

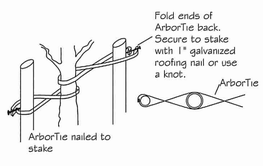
DECIDUOUS TREE PLANTING

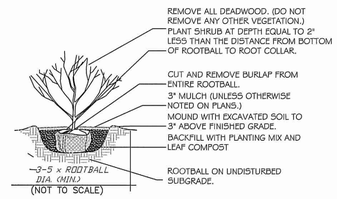
NOT TO SCALE



EVERGREEN TREE PLANTING

NOT TO SCALE

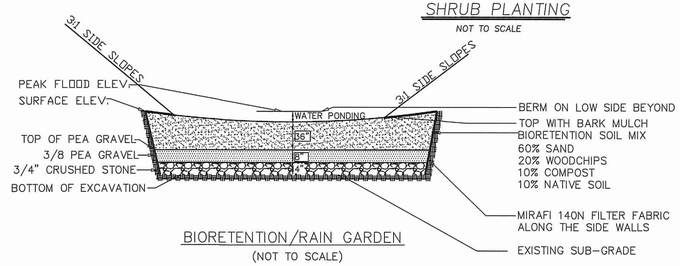




(NOT TO SCALE)

SHRUB PLANTING

NOT TO SCALE

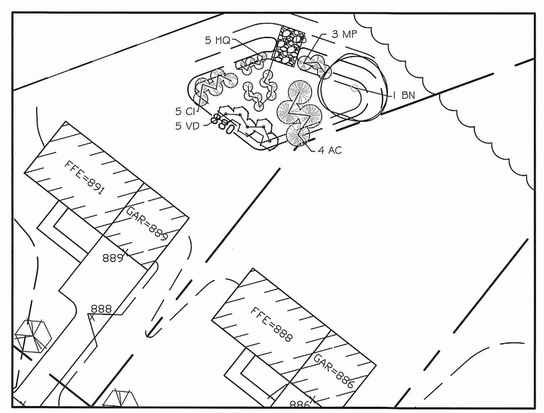


BIORETENTION/RAIN GARDEN

(NOT TO SCALE)

1. BIO-RETENTION SOIL MIX SHALL BE UNIFORM, FREE OF STONES, STUMPS, ROOTS OR SIMILAR OBJECTS LARGER THAN 2".
2. SAND COMPONENTS SHALL MEET ASTM C 33
3. ONSITE SOIL MIXING IS NOT ALLOWED IF THE SOIL IS SATURATED.
4. AVOID EXCESS COMPACTION OF THE SOILS WITHIN THE RAIN GARDEN. COMPACT WITH MINIMAL PRESSURE UNTIL THE DESIRED ELEVATION IS REACHED.
6. THE LEAF COMPOST COMPONENTS MUST BE PROCESSED FROM YARD WASTE. NO BIOSOLIDS ARE ALLOWED.
7. SOIL PH RANGE- 5.5-6.5
   ORGANIC MATTER- 1.5-3.0%
8. BARK MULCH SHALL BE WELL AGED (STOCKPILED FOR 12 MONTHS) SHREDDED HARDWOOD ONLY, NO CONSTRUCTION WASTE AND OR DEBRIS. WOOD MULCH SHALL BE UNIFORM IN COLOR, FREE OF FOREIGN MATERIAL INCLUDING PLANT MATERIAL.

Qty.	Key	Common Name	Botanical Name	Size	Remarks
TREES					
10	AC	Serviceberry	*Amelanchier canadensis*	3" Cal.	B&B
4	BN	River Birch	*Betula nigra*	3" Cal.	B&B
SHRUBS					
15	CI	'Insanti' Dogwood'	*Cornus sericea 'Insanti'*	36" Ht.	B&B
5	HQ	'Oak Leaf' Hydrangea	*Hydrangea quercifolia*	36" Ht.	B&B
6	LB	Spicebush	*Lindera benzoin*	36" Ht.	B&B
9	MP	Northern Bayberry	*Myrica pensylvanica*	36" Ht.	B&B
5	VD	Northern Arrowwood	*Viburnum dentatum*	36" Ht.	B&B



RAIN GARDEN PLANTING

1"=30'

NOT FOR CONSTRUCTION

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No.	Date	Revision

BRIAN R. MARCHETTI CIVIL NO. 46279 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

5/28/2021

Drawn By: JLL | Designed By: BRM | Checked By:

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Project Name

Proposed Development
Porter Page Road
Westminster, MA

Sheet Title

Construction Details

Job No: 205.02
File Name: 205.02P-DET02
Date: May 28, 2021
Scale: N.T.S.

Sheet No. 12